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ABSTRACT

The effectiveness of a well-known prejudice-reduction simulation activity, "Blue Eyes-Brown Eyes," was assessed as a tool for changing the attitudes of nonblack teacher education students toward blacks. The subjects were 164 students enrolled in eight sections of an introductory elementary education course at a state university. Three sections were selected to be administered the simulation; five sections served as a control group. All students were administered two racial attitude measures as pre- and post-tests. After participating in the simulation, students described their feelings about the experience both in writing and in an hour-long debriefing session. Outcomes include the following: (1) all subjects reported that the experience was meaningful; (2) statistical analysis of pre- and post-test results showed moderate prejudice reduction; and (3) all participants reported stress from the simulation. An attempt to measure long-term behavior change, using a mail solicitation one year later, was inconclusive. Ethical considerations are explored connected with subjecting simulation participants to short-run emotional discomfort in order to achieve greater compassion for others. Three tables of statistical data and a seven-page list of references are included. (FMW)

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Ethical and Pedagogical Issues in the Use of Simulation Activities in the Classroom: Evaluating the "Blue Eyes-Brown Eyes" Prejudice-Reduction Simulation

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Abstract

The effectiveness of a well-known prejudice-reduction simulation, "Blue Eyes-Brown Eyes," was assessed as a tool for changing the attitudes of nonblack teacher eduction students toward blacks. The three outcomes are: (1) virtually all of the subjects reported that the experience was meaningful for them, (2) the statistical evidence supporting the effectiveness of the activity for prejudice reduction was moderate, and (3) virtually all of the participants, as well as the simulation facilitator, reported stress from the simulation. Ethical issues were presented bearing on whether it is right to have simulation participants experience emotional discomfort in the short-run to achieve greater compassion for others in the long-term.

Ethical and Pedagogical Issues in the Use of Simulation Activities in the Classroom: Evaluating the "Blue Eyes-Brown Eyes" Prejudice-Reduction Simulation

A great deal of literature is available on what groups hold what prejudices, the extent of such prejudices, and the negative impact of prejudice and discrimination (e.g., Allport, 1958; Bowser & Hunt, 1981; Dovidio & Gaertner, 1986). There is considerably less literature available on effective methods for reducing prejudice (Pate, 1986). One consistent finding in the literature on prejudice reduction is that knowledge alone is not an effective means of changing attitudes and behaviors (Allport, 1958; Fishbein & Ajzen, 1975; Pate, 1981). An approach that has shown some effectiveness in changing attitudes and behaviors is role playing or participation in simulation activity (Bredemeier & Greenblatt, 1981; Bruin, 1985; Fishbein & Ajzen, 1975; Horne, 1988; Wieder, 1954).

A potentially effective prejudice-reduction simulation is the activity, "Blue Eyes-Brown Eyes," designed by Jane Elliot. Elliot developed this activity to teach her students about prejudice and discrimination, following the assassination of Martin Luther King, Jr., when she was a classroom teacher in a predominately white, rural elementary school in Iowa. The activity is demonstrated in the widely used films "A Class Divided" (Peters, 1985) and "Eye of the Storm" (Peters, 1971b). These films have been used extensively in education and social science courses across

the nation and have been shown frequently on Public Broadcast Stations. An account of Elliot's simulation, A Class Divided, was written by William Peters (1971a). In the film, "A Class Divided," Elliot states that all teachers and administrators should participate in such a prejudice-reduction activity as part of their training. Interestingly, as well known and highly touted as this activity is, no research could be located on its effectiveness for changing the attitudes and behaviors of adults. In fact, there is only minimal and mostly anecdotal evidence to support the simulation's effectiveness for reducing prejudices of children (Peters, 1971a; Weiner & Wright, 1973; Zimbardo, 1975).

Review of Literature

Proponents of simulation exercises such as the "Blue Eyes-Brown Eyes" activity argue that participants in the role-playing experience develop empathy for members of a stigmatized group (Clore & Jeffery, 1972; Greenblat & Duke, 1981; Shaftel & Shaftel, 1976). By taking the role of a member of a stigmatized group, participants assume the cognitive perspective of the other as well as appreciate the affective state of the other and, according to role theorists, these cognitive and emotional experiences lead to the transformation of attitudes and behaviors (Goffman, 1959; Mead, 1934).

The findings of studies on role playing to foster attitude and behavior changes are inconsistent. Shaver,

Curtis, Jesunathadas, and Strong (1987) examined the findings of 58 simulation studies directed toward changing the attitudes of participants toward persons with disabilities. They concluded that there was a great deal of variability in the results of the studies reviewed. The effect size Delta was .4 with a standard deviation of .76. Twenty-nine percent of the 58 studies showed negative effect sizes.

The only empirical study dealing specifically with the "Blue Eyes-Brown Eyes" was Weiner and Wright's (1973) investigation of 31 third graders who, in a simulation, were divided into two groups. One group experienced prejudice and discrimination for several days and then became the discriminators for several days. The other group was initially the discriminators and then experienced discrimination. These participants were more likely to express positive attitudes toward black children than were members of a control group. Weiner and Wright do not specify what racial attitude instrument was used and no data are given regarding the validity and reliability of the instrument. A number of questions arise regarding the internal validity of the findings. A debriefing with simulation participants occurred before the follow-up data were collected and raises the possibility that participants responded to a demand characteristic of the experiment.

Systematic research on simulation activity directed toward building antidiscriminatory attitudes in participants goes beyond previous studies. The purpose of the present study was to test the hypothesis that having taken part in the "Blue Eyes-Brown Eyes" simulation, nonblack teachers in training would be more likely to hold positive attitudes toward blacks and to express greater willingness to engage actively in antidiscriminatory behavior toward blacks.

Since a major responsibility of public education is to teach democratic principles, it is not unreasonable to expect classroom teachers to be aware of prejudice and discrimination and to address these topics with students. Yet, prejudice toward minorities, one of the greatest deterrents to achievement of democratic goals, receives little attention in most classrooms (Byrnes, 1987). Teacher education programs do not give adequate attention to the study of prejudice and discrimination (Freedman, 1980; Ginsburg & Newman, 1985). Consequently, teachers and preservice teachers are no more accepting of various ethnic groups than nonteachers (Byrnes & Kiger, in press; Law & Lane, 1987). Teachers' prejudices have the power to affect many children's lives (Gay, 1979; Leiter & Brown, 1983; Stern & Keislar, 1975; Stevens, 1980).

Procedures

The study was conducted at a state university in the Rocky Mountain region. The research was integrated into the

normal teaching schedule of an introductory elementary education course. The 164 university students, 57 in the experimental group and 107 in the control group, who took part in this research were enrolled in eight sections of the course. Three sections were taught during fall term, three during winter term, and two during spring term. Three sections of the course, all taught by different instructors, were selected to participate in the discrimination simulation. The other five sections, taught by the same three instructors plus one additional instructor (the simulation director), served as a control group. Given the nature of the treatment, it was decided that the simulation director should not administer the treatment to her own class. Selection of the three sections to receive the treatment was based on the importance of having three different instructors' classes participate in the simulation in order to control for instructor bias.

Subjects

Of the 164 students who participated, fifty-seven percent were freshmen, 20% sophomores, 16% juniors, 5% seniors and 2% graduates returning for elementary education certification. The median age was 19; the mean age was 21. Ninety-two percent of the students were female. A sizable proportion of the participants (90%) were members of the Church of Jesus Christ of Latter-day Saints (Mormons). Characteristics were similar across the experimental and

control groups in regard to gender, religious affiliation, age, and year in school. Only three percent of the students identified themselves as being from a minority ethnic group. No minority persons were members of the experimental group.

Instruments

Two weeks into the course, students in both the experimental and control groups completed two racial attitude instruments--the "Social Scale" and the "Social Scenarios Scale" (Byrnes & Kiger, 1988). Students were informed that completion of the instruments was voluntary and that their responses would be anonymous. Approximately nine weeks into the academic quarter both instruments were readministered to students. Pretests and posttests were coded for matching purposes.

The "Social Scale," an updated and revised version of the Bogardus Social Distance Scale (Bogardus, 1959), assesses social distance attitudes of nonblacks toward blacks. Each of the eight items, about having a black person occupy a given social status (e.g., roommate, physician, governor, dance partner), was coded from 0 (very uncomfortable) to 6 (very comfortable). The higher the scale score the more positive the racial attitudes.

The "Social Scenarios Scale" examines students' willingness to condone, ignore, or confront twelve discriminatory situations involving blacks. Each item was

coded from 0 (least antidiscriminatory response) to 4 (most antidiscriminatory response). The higher the scale score the more positive the racial attitudes expressed. Following is an example of the scenarios to which subjects responded:

> Imagine you and your friend are in a small store waiting to make a purchase. Across the aisle, a white person is asking the manager about a sales position that is open. He is given an application to complete and return. Several minutes later a black person approaches the manager about the same job opening and he is told the position has already been filled.

The respondents then had several response choices, ranging from support for the manager's decision to a direct verbal statement to confront the manager about his discrimination.

Treatment and Control Groups

Students in the control groups attended class as usual and the instructors in these classes presented the lecture and discussion material they would normally present on cultural awareness. Two of the classes viewed a film that is regularly used in the course. Entitled "A Class Divided," the film portrays Jane Elliot's "Blue Eyes-Brown Eyes" prejudice-reduction procedures. Approximately five weeks into the course, students in the simulation treatment classrooms were required to attend a three-hour "cultural awareness" workshop (i.e., the simulation activity) as part of their

course requirements. For students' convenience, the workshop was offered three different times. No specific information regarding the nature of the workshop was given to students beforehand.

Prior to holding the cultural awareness workshops, one of the researchers (a white female) obtained training in the procedures for conducting the workshop. She viewed two movies (Peters, 1971a, 1985) depicting the use of this method with children and adults, read a book on Elliot's procedures (Peters, 1971b), and personally took part in two such simulations given by Elliot.

The Simulation

When students in the experimental group arrived at the simulation workshop, they were immediately asked by the workshop director to sign in and state their eye color. Students with blue eyes had blue collars pinned around their necks and were told to wait in a nearby room. Students whose eyes were not blue (green, hazel, brown) were classified as brown eyed and were asked to wait in the workshop classroom and help themselves to refreshments. The workshop classroom had numerous signs depicting blue-eyed individuals in a negative light. For example, signs read, "Beware of blue-eyes," "You let in one blue-eye and there goes the neighborhood," "I'm free, brown-eyed and over twenty-one," "Brown-eyes only need apply," "Would you want your daughter

to marry a blue-eye?" In the hall by the classroom, signs on the restrooms and on the drinking fountain read "No Blue-Eyes." (Blue-eyed individuals were told to use facilities in an adjoining building.)

After all of the students for the workshop were registered, the director met with the brown-eyed students and informed them about the nature of the workshop and asked for their cooperation. They were asked to assume for the next one and a half hours that they were superior to blue-eyed people and to treat the blue-eyed people as if they were inferior. (Blue-eyed students were selected to be inferior so that any minority students in the classes would not likely be placed in the situation of experiencing the discrimination.) Concerns of the brown-eyed individuals were discussed. They were assured that there would be an indepth debriefing for all students at the end of the workshop. To assure that the brown-eyed students did in fact do better in the workshop exercises than the blue-eyed students, brown-eyed individuals were given the answers to many of the test questions that would be asked when the blue-eyed students joined the brown-eyed students.

During this time, the blue-eyed individuals remained in a room with no directions except that they were to wait there. An accomplice to the director kept watch over the group. This accomplice, plus a graduate student research

assistant assigned to the project, were also to follow and debrief any student who might choose to leave the workshop before it was over. After approximately thirty minutes, blue-eyed students were instructed to join the group in the workshop classroom. There was only enough comfortable seating for brown-eyed students, so blue-eyed students either sat in front of the director on the floor or in a crowded seating section arranged for them. Throughout the next hour and a half, the director gave an assignment regarding listening skills, a lecture on the discriminatory behavior of Euro-Americans, and a test. Every opportunity to criticize blue-eyed students and praise nonblue-eyed students was seized. Brown-eyed students assisted in creating a discriminatory environment by meticulously scrutinizing the work of blue-eyed students, flaunting the privileges granted them as brown-eyed individuals, and generally supporting the director's statements that blue-eyed individuals were slow, lazy, uncooperative, rude, and not very bright.

At the end of the simulation period and before the debriefing session, both brown-eyed and blue-eyed students were asked to write what they were feeling. As evidenced by students' written comments and their actions, the workshop was effective in creating a discriminatory environment. Blue-eyed students expressed anger, rebelliousness, hurt, fear, and feelings of inferiority while in the role of the

oppressed. Brown-eyed students, while feeling empathetic toward their less fortunate blue-eyed peers, at times reveled in their feelings of superiority and the freedoms that their brown-eyed status afforded them. At no time did brown-eyed students ever withdraw from their role performance and defend a blue-eyed peer. The comments below were illustrative of many of the participants' feelings immediately following the simulation and before the debriefing.

> I felt two emotions, one of helplessness and one of anger. I couldn't figure out what I should do. The funny thing is, after the discrimination starts, you start to believe what others say. It was a truly horrible experience. (blue eyes)
>
> This really stinks!....I can't imagine what it would be like to face something like this every day of your life. Let's face it, I felt like a big zero. (blue eyes)
>
> I was angry, antagonistic, resentful and even bordered on hate for brown eyes. I was shocked at how quickly I felt these feelings. (blue eyes).
>
> I feel embarrassed. I didn't want to be mean to the 'blue eyes' so I ignored them. But I feel like I should have said something to stop it. However, it wasn't the popular thing to do. It opened my eyes. I discriminate--I didn't realize how much. It made me

think about me. There are definitely things I want to change. It makes my heart sick that we can be so unfair. (brown eyes)

I didn't like knowing that the people hated us, the brown-eyed people. One of the blue-eyed students glared at us like she wanted to kill us. (brown eyes)

It was sad to see the people with blue eyes squirm. I could see the sadness in some of their eyes and I wanted to help them but I didn't. I felt like asking them not to answer, to rebel or just wait until class was over. Once the simulation was started it was easy to see how the 'privileged ones' really enjoyed their roles. (brown eyes)

During the hour-long debriefing session that followed, students expressed their feelings and responded to one another's comments and feelings. Many issues related to prejudice and discrimination (e.g., power, self-esteem, labeling, rejection, conformity to discriminatory practices, how prejudices are learned, and community examples of prejudice and discrimination) were discussed as a result of the feelings evoked by the simulation. To gain additional feedback on the participants' views of the workshop, all students were asked to complete an evaluation form. Anonymity was assured. On a scale of 1 to 10, "1" being least helpful and "10" being most helpful, the mean rating by participants

of the worthwhileness of the workshop was 9.3. The range was 5 to 10 and the median was 10. Participants' ratings of the workshop and their comments were remarkably high regardless of their eye color or the session they attended.

Analyses

To examine whether the simulation experience was an effective prejudice-reduction strategy, the mean responses of subjects to a pretest and posttest on racial attitudes (see Table 1) were subjected to an analysis of covariance. The dependent variables were posttest scores on the Social Scale and on the Social Scenarios Scale. The independent variable was "experimental condition": whether the subject was in the control or experimental group. The covariates were the pretest scores for the particular dependent measure. The homoscedasticity assumption was met for each dependent variable for each treatment group. Also, the homogeneity of the slope of the regression line assumption was met for each treatment group. That is, the coefficient of the covariate was the same for each treatment group.

Insert Table 1 about here

In addition to a pretest-posttest analysis, an investigation of long-term behavior change was undertaken. Approximately one year after the simulation experience, all

subjects were mailed a request for a donation to the university's Martin Luther King, Jr. fellowship fund. The mailing was done on the university's Development Office stationery and requests were for a nominal contribution of one or two dollars. To donate, subjects were to complete an enclosed card and send it with the donation in an enclosed postage-paid envelope. This procedure was similar to Rokeach's (1973) design in which he mailed NAACP membership applications to subjects.

Role theorists predict that empathetic role playing in a simulation leads to attitude and behavior change. We tested this hypothesis.

Results

Table 2 shows the analysis of covariance findings for the difference among the Social Scale posttest mean scores. The experimental group mean was not statistically significantly higher than that for the control group.

Insert Table 2 about here

Table 3 includes the analysis of covariance findings for the difference among the Social Scenarios Scale posttest mean scores. The mean posttest score for the experimental group was statistically significantly higher than for the control group.

Insert Table 3 about here

A difference of four points on the Social Scenarios Scale between the control and experimental group mean posttest scores was approximately one-half of the control group standard deviation (S.D.=8.3). The maximum possible score on the Social Scenarios Scale was 48. That is, scores of the upper half of the experimental group exceeded approximately 69.1% of the control group scores. This result indicates a findings with practical significance. Only 5% of the variance in the posttest scores was associated with treatment (eta^2=.05). However, given the difficulty in changing racial attitudes, any change toward more positive racial attitudes or behaviors may be seen as encouraging.

While the principal focus of this study was to investigate the influence of the experimental condition on subjects' racial attitude scale scores, the main and interaction effects of gender, religious affiliation, age, year in college, eye color, and course professor, were analyzed. None of the differences among means and none of the interaction effects were statistically significant.

The results of the mailing to subjects requesting a donation to the fellowship fund did not yield sufficient data from which to draw conclusions. Only three donations were made and all of these were from members of the control group.

Discussion

The results indicate that the "Blue Eyes-Brown Eyes" simulation had a favorable influence on nonblack subjects' attitudes toward blacks. A statistically significant difference ($p<.03$) between treatment group means on the Social Scenarios Scale suggests that students' participation in the simulation did increase their professed willingness to act in antidiscriminatory ways. There was no change in experimental subjects' stated levels of comfort with blacks in various social situations, as measured by the Social Scale. The control group showed no appreciable change in attitudes on either of the instruments. Neither lectures on prejudice and discrimination nor the viewing of the discrimination simulation on film (in conjunction with lecture and discussion) appeared to influence nontreatment participants' attitudes.

There was the possibility that experimental and control group differences were due to the perceived demand characteristic of the experiment. However, if experimental group subjects were responding to a demand characteristic of the experiment, one would expect a change in experimental group subjects' stated levels of comfort with blacks in various social statuses, as measured by the Social Scale. No such change occurred.

The insufficient data from the mailing to subjects might suggest that there were no long-term behavioral changes brought about by participation in the simulation. However, there are alternative explanations. First, perhaps willingness to donate to the Martin Luther King, Jr. fellowship fund was not a valid measure of antidiscriminatory behavior. Even if a person expressed an attitude consistent with equality, civil rights, and affirmative action, that person may act on these attitudes in ways other than making financial contributions. Making financial contributions was not the specific focus of the simulation. Secondly, the determinants of whether a person donates to a cause may exist outside the domain of prejudice and discrimination. A subject, for example, may have made a conscious decision to donate to a select number of civil rights causes, with the Martin Luther King, Jr. fellowship fund not one of them.

We are less convinced than Rokeach (1973, pp. 248-322) that mail solicitations are a valid measure of behavioral change. Rokeach did a mailing inviting subjects to join the NAACP. Three to five months after the experimental treatment, less than 15% of subjects responded (40 out of 366). Statistically, significantly more experimental group members joined than did control group members. However, another solicitation was mailed 15 to 17 months after the experimental treatment. Only 7% responded; the statistically

significant differences between the experimental and control group members disappeared.

An additional result of the study was observational and self-report information on stress experienced by the participants and by the simulation facilitator. Although efforts were made to assure that assistance was available if any individual was unable to cope with the stress of the discrimination exercise, the possible negative psychological impact of such a simulation on individual participants or on the workshop director cannot be ignored.

Ethical Considerations

To the extent that simulation participants experienced stress, the process raised important ethical issues. Even if the outcome was geared toward laudible ends (i.e., emotional role playing to empathize with oppressed members of a minority group), was the exposure of participants to ridicule and unfair treatment justified? Additionally, consider the stress experienced by the simulation facilitator and by participants who engaged in ridicule of other simulation group members.

Indeed, the family of a 13-year-old California student at a Catholic high school recently filed suit against the school principal, the high school, and the archdiocese for "emotional damage" allegedly suffered by the student who participated in a simulation not unlike the "Blue Eyes-Brown Eyes" activity (Girdner, 1987; Woo, 1987). The simulation was

THE COLOR GAME in which participants were assigned to one of four groups in a hierarchical system of privilege. Higher status group members could exercise prerogatives over lower class members and rules were enforced by a group of "police." The simulation was designed to teach participants about racism. Participation was mandatory.

There are little data on the psychological consequences for participants in simulations (Greenblat & Gagnon, 1981, p. 103). Similarly, there is no systematic treatment that we could find regarding the ethics of simulation activities (C. S. Greenblat, personal communication, September 29, 1988). In the absence of psychological and ethical information on simulations, we offer a number of research and pedagogical guidelines to consider when using simulation activities.

The ethical concerns raised by the "Blue Eyes-Brown Eyes" and the "Color Game" simulations may be considered from a number of broad, interrelated perspectives: the right to know, the right to privacy, and informed consent. While these perspectives are intertwined, we separate them here for analytic purposes. The right to know argument states that researchers must have the freedom to pursue knowledge within the bounds of respecting individual rights to privacy. When considering whether the ends of the research (e.g., learning about and reducing prejudice) justified the means (e.g., inducing stress in participants), the focal concern must be

why do we want to know the research findings? Are the findings directly relevant to a larger, laudible purpose? The argument could be made that the "Blue Eyes-Brown Eyes" simulation was ethical (from a right to know perspective) since it gave researchers information about prejudice-reduction strategies. Moreover, there was evidence that the simulation might be effective in reducing prejudice in participants. We would argue that the degree of short-term emotional discomfort experienced by the simulation participants and facilitator was worth the possible long-range benefit, that participants would become more compassionate.

An additional issue here is that public school curricula are designed to address prejudice and discrimination in society. (Whether teachers do this is another matter [Byrnes, 1987].) There is broad public support for fighting prejudice in society. The specifics of how to go about this, not the principle, are the source of controversy.

The right to know must be balanced by a reasoned consideration of an individual's right to privacy. Participation in research should be voluntary and subjects should be in a position to give informed consent. However, can a participant decide freely to participate if he or she is not informed of the specific nature of the simulation? Can the simulation be effective if the nature of the exercise is

fully disclosed to participants? In the case of the "Blue Eyes-Brown Eyes" activity, complete disclosure would quite obviously lessen the effect of the simulation. One solution to this problem is to offer general information to participants about the simulation without compromising the certain amount of deception necessary to gain valid and reliable results.

When simulations are used for pedagogical purposes, as an activity required as part of the ongoing instruction in a course, we suggest that participation may be required in order to secure commitment from participants. Teachers routinely require work of students that might induce stress. Minor psychological discomfort is not an unusual feature of the educational enterprise. Indeed, the creation of cognitive dissonance and/or value conflicts are well-known tools for enhancing learning and personal growth. Simulations, such as the "Blue Eyes-Brown Eyes" activity, if handled sensitively with good debriefing sessions, are no different than other assignments. Participants of the "Blue Eyes-Brown Eyes" activity could have withdrawn at any time; simulation assistants were available to debrief those persons. Debriefing did occur, as a matter of course, for all participants who completed the simulation. With regard to required participation, sensitivity to who should be involved in such a simulation and what degree of stress any individual

can safely handle is essential and facilitators are urged to use their considered professional judgment when directing the simulation.

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Table 1

Means and Standard Deviations for the Social Scale and the Social Scenarios Scale Scores (Pre- and Posttest) for Control and Experimental Groups

	SOCIAL SCALE		SOCIAL SCENARIOS SCALE	
	Groups		Groups	
	Control (n=107)	Experimental (n=57)	Control (n=107)	Experimental (n=57)
Pretest	35.28 (10.7)	36.78 (7.6)	29.81 (8.6)	31.23 (7.7)
Posttest	34.61 (10.3)	37.35 (8.5)	29.14 (8.4)	33.14 (8.5)

Note. Standard deviations are in parentheses.

Table 2

Analysis of Covariance for Regression Design: Social Scale Posttest Scores by Experimental Condition with Pretest Scores as Covariate

Source of Variation	Adjusted Sum of Squares	d.f.	Beta	Adjusted Mean Square	F-Ratio	Eta^2
Treatment	41.87	1	.05	41.87	.22	.02
Covariate	11,331.14	1	.85	11,331.14	.00	
Error	4 435.70	162		27.38		
Total	15,808.70	164		96.40		

R^2=.72

Table 3

Analysis of Covariance for Regression Design: Social Scenario Scale Posttest Scores by Experimental Condition with Pretest Scores as Covariate

Source of Variation	Adjusted Sum of Squares	d.f.	Beta	Adjusted Mean Square	F-Ratio	Eta^2
Treatment	120.65	1	.10	120.65	.03	.05
Covariate	8030.47	1	.81	8030.47	.00	
Error	3929.71	161		24.41		
Total	12,080.85	164		74.12		

R^2=.68